

The Colombian Species of the Genus *Diabrotica*, with Descriptions of those hitherto uncharacterized.—Part II.

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SECTION II.

Second joint of antenna short, the third much longer, nearly or quite equal in length to the fourth.

Subsection 1.—Disk of thorax immaculate.

A. Body elongate or oblong, dilated posteriorly. Elytra elevate-vittate, seriate- or subseriate-punctate, the punctures being more or less regularly arranged between the vittæ in double rows; disk black or piceous, rarely (*corusca*) metallic blue or green; the entire outer limb, together with a subsutural vitta, confluent at its apex with the limb itself, flavous or yellowish white.

38. *DIABROTICA CORUSCA*, v. Harold, *Col. Hefte*, xiii. 1875, p. 92.

Hab. Magdalena River, Fusagasuga; Bogota; also Mexico, Oaxaca (*Sallé*).

Very close to *D. innuba*, Fabr.; larger and less dilated posteriorly; its elytra variable in colour, always with a distinct metallic tint.

I possess a long series of this species, the majority of them simply labelled Colombia without more precise locality.

39. *DIABROTICA INNUBA*, Fabr. *Syst. Ent.* 1775, p. 117.

Hab. Colombia, Magdalena River; also North America, Mexico, West-Indian Islands, and Cayenne.

Shorter and broader than *D. corusca*, v. Harold; more dilated posteriorly; in both insects the second and third costæ from the suture are equal in width, being each broader than any of the outer ones; the antennæ in both are pale and slightly stained with fuscous towards the apex, the eighth and ninth joints not being paler than the rest. This species appears to have a more extended range than the previous insect.

40. *DIABROTICA KIRSCHI*. Subelongata, postice vix ampliata, nigra, nitida, antennis basi et ante apicem sordide flavis aut flavo-albidis; thorace piceo-fulvo, utrinque profunde foveolato, inter foveas depresso; elytris regulariter elevato-vittatis, vitta tertia a sutura latiori, interspatiis biseriato-punctatis; nigris aut piceis, purpureo-tinctis, margine exteriori vittaque lata subsuturali flavo-albidis; pedibus pallide flavis, genubus, tibiis, dorso tarsisque piceis. Long. $2\frac{1}{2}$ lin.

Hab. Fusagasuga; Muzo; Western Colombia (*Winkler*); Magdalena River, Bogota.

Head longer than broad, elongate-trigonal; vertex shining, impressed with very fine strigæ, visible only under a lens; front impressed with a deep fovea; clypeus sparingly clothed with griseous hairs, its surface on either side rugulose; jaws pale piceous. Antennæ filiform, the second joint short, the third and fourth equal, each twice the length of the second; four lower joints, together with the eighth and the lower portion of the ninth, obscure flavous or yellowish white. Thorax nearly twice as broad as long; sides parallel and slightly sinuate from the base to beyond the middle, thence obliquely converging towards the apex; surface sparingly impressed with very fine punctures; middle disk deeply foveolate on either side, the space between the foveæ depressed. Elytra narrowly oblong, slightly dilated posteriorly; convex, flattened along the suture; each elytron with eight narrow costate vittæ, the third from the suture broader than any of the others, their interspaces biseriato-punctate; rufo-piceous or piceous, rarely black, the outer limb and a broad subsutural vitta, which covers two or more of the longitudinal costæ, yellowish white.

Nearly allied to *D. vittata*, separated from that species by only the third costa on each elytron being broader than the rest; in *D. vittata* the second and third costæ are both broader and of equal width; in the same species all the costæ are rather wider and more strongly raised than in the present insect.

41. *DIABROTICA THEIMEI*. Subelongata, postice paulo ampliata, nigra, pedibus flavis; antennis nigro-piceis aut piceis, basi fulvis, ante apicem flavo-albidis; thorace flavo-fulvo, disco postico profunde bifoveolato; elytris regulariter elevato-vittatis, vitta interna latiori, interspatiis biseriato-punctatis; nigro-piceis aut piceis, margine externo vittaque super costam internam sita, basi et apice coeuntibus, flavis. Long. $2\frac{1}{2}$ -3 lin.

Hab. Sta. Martha, Bogota, also Mexico; West-India Islands, Porto Rico, Cayenne, Bahia, and Ecuador.

Head trigonate; antennæ slender, filiform, second joint very short, the third and fourth equal, each twice the length of the second, the three lower joints, together with the eighth and ninth, flavous. Thorax one half broader than long; sides nearly straight and parallel from the base to beyond the middle, thence converging towards the apex; above smooth and shining, impressed on either side behind the middle with a large deep fovea. Elytra each with about six elevated vittæ*, the one next the suture smooth and broader than the rest, their interspaces biseriata-punctate; pitchy black or piceous, the outer margin, together with a narrow vitta placed on the broad inner costa and connected at base and apex with the outer limb, pale flavous.

The sculpturing of the elytra is very similar to that of *D. Kirschi*, but the discoidal vittæ are rather more strongly developed; the ground colour of the elytra in the present species is piceous, nigro-piceous, or black, with the outer margin and a narrow raised vitta near the suture pale flavous or yellowish white. In *D. Kirschi* the subsutural vitta is much broader, covering two to four of the longitudinal costæ, so that the coloration of the elytra may be described as yellowish white with a sutural line, abbreviated near the apex, and a broad discoidal vitta (abbreviated posteriorly) nigro-piceous or piceous.

42. *DIABROTICA SEPARATA*. Subelongata, postice paullo ampliata, nigra, nitida, capite thoraceque bifoveolatis, piceo-rufis aut sordide fulvis, antennarum articulis intermediis fuscis aut nigris, octavo quoque albidis; elytris seriato-punctatis, minus regulariter elevato-vittatis; nigris, margine externo vittaque subelevata prope suturam, basi et apice cum margine coeunti, flavo-albidis; pedibus flavis, piceo-tinctis. Long. $2\frac{1}{2}$ lin.

Hab. Eastern Colombia (*Winkler*); Magdalena River; also the Amazons (Pará and Santarem).

Head scarcely longer than broad, triangular; front impressed with a deep fovea; encarpæ trigonate; antennæ filiform, second joint short, the third more than twice its length, equal to the fourth. Thorax more than half as broad again as long; sides parallel and slightly sinuate from the base to beyond the middle, thence slightly converging to the apex; smooth and shining, deeply bifoveolate. Elytra narrowly oblong, convex, strongly

* In some specimens there are traces of two additional costæ near the suture.

punctured on the outer disk, the puncturing finer near the suture; outer disk with several distinctly raised longitudinal costæ, which commence below the humeral callus and extend nearly to the apex of the elytron, gradually becoming less distinct before their termination; the punctures between these costæ irregularly arranged in double rows; disk black, the outer half of the basal limb, the entire outer margin, together with a smooth slightly raised subsutural vitta (which corresponds to the third costa in the preceding species), connected at base and apex with the limb, yellowish white.

The pale head separates this species from *D. bivittata*, Kirsch, to which insect it is in all other characters closely allied. *D. bivittata* (which has a black head) ranges from Brazil to Ecuador; the present species, as shown above, is found in Colombia and the Amazon region. I have received numerous specimens from the latter locality, and in all the colour of the head is constant.

B. Elytra elevate-vittate, coarsely rugose-punctate
between the vittæ.

43. DIABROTICA CORYPHÆA.

Diabrotica puncticollis, var., Kirsch, Berlin. Ent. Zeit. xxvii. 1883, p. 203.

Ovata, postice ampliata, convexa, flava, nitida; capite, antennis apice, scutello pectoreque nigris; thorace transverso, profunde bifoveolato; elytris elevato-vittatis, rude rugoso-punctatis, subopacis, nigris, margine externo (in ♂ ad apicem dilatato) flavo. Long. 3 lin.

Mas. Elytris utrisque tuberculo magno, intus excavato, ad apicem prope suturam posito, instructis.

Hab. Coper; Fusagasuga: coll. Steinheil. Magdalena River: my collection.

Head scarcely longer than broad, trigonate; vertex subrugose-punctate; clypeus granulose-punctate, its medial line with a longitudinal ridge. Antennæ slender, filiform, third joint twice the length of the second, nearly equal in length to the fourth in the male, rather shorter in the female; pale flavous, the three outer joints black. Thorax nearly twice as broad as long; sides diverging from the base to the apex, slightly sinuate behind the middle, smooth, impressed in some specimens with a few fine punctures; disk with two large deep foveæ, which are only separated by a narrow longitudinal space. Elytra oblong, gradually

dilated posteriorly; convex, disk of each elytron with five or six narrow raised vittæ, their interspaces coarsely rugose-punctate.

Closely allied to *D. viridipennis*, Jacoby, separated by the black instead of metallic green elytra; from *D. flavolimbata*, Eric. (*Balyi*, Jacoby), it may be known by the pale thorax, and by the greater number of elevated vittæ on the elytra.

44. *DIABROTICA PUNCTICOLLIS*, *Baly*, *Trans. Ent. Soc.* 1865, p. 346.

Hab. Ubaque: coll. Steinheil. Sta. Martha: my collection.

Similar in coloration to *D. flavolimbata*, Erich. Wieg. Arch. 1847, p. 169; it may be known by the greater number of raised vittæ on the elytra, and by the nearly impunctate thorax.

C. Body elongate, dilated posteriorly; elytra torulose, rufous, unicolorous.

45. *DIABROTICA COCCINEA*, *Baly*, *Trans. Ent. Soc.* 1865, p. 345.

Hab. Muzo: coll. Steinheil. Magdalena River: my collection.

D. Body elongate, dilated posteriorly; elytra closely punctured, metallic green.

46. *DIABROTICA ÆNEIPENNIS*. Elongata, convexa, flavo-fulva, nitida; vertice scutelloque piceo-nigris, antennis tarsisque sordide fulvis; thorace transverso, lævi; elytris fortiter crebre punctatis, viridi-metallicis. Long. 3 lin.

Hab. La Luzula.

Head not longer than broad, triangular; antennæ filiform, the second joint short, the third and fourth nearly equal, each twice the length of the second. Thorax half as broad again as long; sides slightly rounded; disk transversely convex. Elytra oblong, sometimes slightly dilated posteriorly, coarsely and closely punctured.

E. Body subelongate or elongate, dilated posteriorly; elytra metallic blue, the entire outer limb narrowly flavous.

47. *DIABROTICA FLAVO-MARGINATA*. Elongata, postice vix ampliata, nigra, nitida; antennis extrorsum, femoribus thoraceque flavis, hoc transverso, disco late transversim excavato; elytris subelongatis, subparallelis, vix pone medium arcuatim excavatis, disco laterali vix pone medium excavato-sinuatis; obscure cyaneis, limbo exteriori flavo. Long. 3 lin.

Hab. Coper: coll. Steinheil. Magdalena River; Bogota: my collection.

Head much longer than broad, wedge-shaped; lower portion of front impressed with a small shallow fovea; encarpæ nearly obsolete; carina very short, linear. Antennæ filiform, the second joint very short, the third three times the length of the second rather shorter than the fourth; six lower joints black, the rest flavous. Thorax transverse; sides subparallel and sinuate from the base to just beyond the middle, thence obliquely converging towards the apex; disk smooth, rather deeply and broadly excavated. Elytra narrowly oblong, scarcely dilated posteriorly; convex, broadly and deeply excavated below the middle, and again immediately below on the outer disk; surface minutely punctured, the puncturing nearly obsolete towards the apex.

Nearly allied to *D. nigriceps*, mihi.

48. *DIABROTICA FLAVO-CINCTA*. Subelongata, postice vix ampliata, flava, nitida; tibiis anticis dorso tarsisque infuscatis, capite nigro, antennarum articulis secundo ad quintum, undecimoque pallide piceis, penultimis duobus sordide fulvis; thorace transverso, disco transversim excavato, sulco utrinque magis profunde impresso; elytris crebre punctatis, metallico-purpureis, limbo externo flavo. Long. $2\frac{1}{2}$ lin.

Hab. Sta. Martha: my collection. Oceana (*Landoltz*): coll. Steinheil.

Head longer than broad, wedge-shaped; vertex shining, impunctate; front impressed above the encarpæ with a deep fovea; encarpæ thickened, contiguous; clypeus with a well-defined, raised, linear carina; palpi obscure fulvous; third joint of antenna twice the length of the second, distinctly shorter than the fourth. Thorax nearly twice as broad as long; sides parallel, sinuate behind the middle, slightly dilated and rounded before the latter; disk impunctate. Elytra narrowly oblong, scarcely dilated posteriorly, broadly rounded at the apex; above convex, distinctly depressed along the suture, closely and finely punctured.

F. Body oblong or subelongate, scarcely dilated posteriorly; elytra black or nigro-piceous; the outer limb, abbreviated at its extreme apex, together with a discoidal vitta or spot, flavous, the latter frequently obsolete.

49. *DIABROTICA SIMILATA*. Subelongata, postice vix ampliata, nigra, nitida; pectore piceo, femoribus flavis, dorso nigrolineatis,

antennis piceo-nigris, apice sordide albidis; thorace rufo-flavo, disco sat profunde subarcuatim excavato; elytris extrorsum elevato-vittatis, vittis apicem versus obsolete; interspatiis biseriato-punctatis, limbo externo, ante apicem abbreviato, vittaque discoidali, a basi fere ad apicem extensa, apice ampliata, albidis. Long. 2 lin.

Var. A. Elytris minus distincte elevato-vittatis, vitta discoidali albida obsolete.

Hab. Magdalena River (type and var. A); Bogota (var. A).

Head scarcely longer than broad, subtrigonal; clypeus with a well-defined longitudinal ridge. Antennæ slender, filiform, the third joint twice as long as the second, equal in length to the fourth; nigro-piceous or black, the basal joint sometimes piceous; the two upper ones (the extreme apex of the terminal one excepted) obscure fulvous. Thorax half as broad again as long; sides parallel and slightly sinuate from the base to beyond the middle, thence obliquely converging to the apex; disk smooth, impressed with a deep, broad, sublunate excavation, which is rather more deeply foveolate on either side. Elytra oblong, scarcely dilated posteriorly, convex, slightly flattened along the suture; outer two thirds of each elytron elevate-costate, the inner costa broader than the others; all the costæ gradually become less defined below their middle, and entirely disappear before reaching the apex of the elytron; interspaces between the vittæ biseriato-punctate, inner disk obsolete punctured.

50. *DIABROTICA INCERTA*. Subelongata, postice vix ampliata; convexa, nigra, nitida; femoribus anticis quatuor subtus, posticisque basi, pallide flavis; thorace transverso, fulvo, disco bifoveolato, spatio inter foveas depresso; elytris oblongis, convexis, tenuiter punctatis, punctis apicem versus deletis; disco prope medium subtiliter elevato-vittatis, vittis longe ante apicem obsolete, spatiis inter vittas magis fortiter subseriato-punctatis; cæruleo-nigris, subnitidis, limbo marginali angusto, ante apicem abbreviato, flavo. Long. 2 lin.

Hab. Bogota; Magdalena River.

Head trigonal; antennæ slender, four fifths the length of the body, entirely black. Thorax one half broader than long; sides straight and parallel from the base to beyond the middle; disk deeply bifoveolate, the space between the foveæ depressed. Elytra oblong, convex, slightly excavated on the suture at the base; minutely punctured, the punctures entirely obsolete towards the apex; on the middle disk, below the humeral callus, are five or six very fine but distinct elevated vittæ, which extend downwards for

a short distance below the middle, when they become obsolete ; spaces between the vittæ rather strongly subseriate-punctate.

Closely allied to *D. similata*, the raised vittæ on the elytra much finer, the discoidal white stripe obsolete.

51. *DIABROTICA PERPLEXA*. Elongata, postice vix ampliata, modice convexa, nigra, nitida ; antennis apice piceo-fulvis ; thorace flavo, bifoveolato ; elytris obsolete elevato-vittatis, subtiliter subseriato-punctatis, punctis ad apicem deletis ; limbo laterali angusto, ante apicem obsolete, maculaque parva oblonga ante apicem, flavis ; femoribus basi, tibiis anticis intus, posticisque basi, fulvis. Long. 2 lin.

Hab. Magdalena River ; a single specimen.

Head longer than broad ; encarpæ well defined, transverse, subquadrate ; clypeus with a strongly raised longitudinal ridge ; antennæ three fourths the length of the body, obsoletely thickened towards the apex, the two upper joints (the extreme apex of the terminal one excepted) piceo-fulvous. Thorax scarcely one half broader than long ; sides nearly parallel from the base to some distance beyond the middle, thence slightly converging to the apex ; upper surface minutely and distantly punctured, the punctures more crowded at the base : disk impressed on either side with a large shallow fovea. Elytra oblong, convex, slightly flattened along the suture, finely subseriate-punctate, the punctures entirely obsolete posteriorly ; each elytron with five or six very slightly raised, ill-defined longitudinal costæ, which extend nearly the whole length of the disk ; the punctures between the vittæ irregularly arranged in double rows.

The form of the thorax will separate this species from *D. medio-vittata*, var. A.

52. *DIABROTICA MEDIOVITTATA*. Anguste oblonga, convexa, nitida, subtus nigro-picea ; pedibus nigris, femoribus (dorso piceo-lineatis) tibiisque anticis intus flavis ; supra nigra ; antennarum articulis duobus apicalibus sordide fulvis ; thorace flavo, disco profunde bifoveolato, spatio inter foveas depresso ; elytris tenuiter sed distincte punctatis, punctis apicem versus fere deletis, disco externo subseriatis, utrisque limbo laterali, ante apicem abbreviato, vittaque lata a basi fere ad apicem extensa, apice interdum leviter excurvata et dilatata, flavis aut flavo-albidis. Long. $2\frac{1}{4}$ lin.

Var. A. Elytrorum vitta discoidali interrupta aut obsoleta.

Hab. Eastern Colombia (*Winkler*) ; Sta. Martha.

Head longer than broad, trigonate ; antennæ filiform, third and fourth joints equal, each much longer than the second. Thorax

about one half broader than long ; sides obliquely diverging from the base to beyond the middle, thence rounded and converging towards the apex ; disk deeply bifoveolate, the space between the foveæ depressed. Elytra oblong, convex, finely and rather closely punctured, the punctures obsolete towards the apex ; the outer disk rather more strongly and subseriate-punctate ; in some specimens there are faint traces below the humeral callus of one or two longitudinal costæ.

53. *DIABROTICA ABBREVIATA*. Oblongo-ovata, convexa, fulva, nitida ; tarsi antennisque, his basi exceptis, nigris, tibiis infuscatis ; thorace bifoveolato ; elytris lævibus, nigris, limbo laterali, vix ante apicem abbreviato, fulvo. Long. 2 lin.

Hab. Colombia (*Steinheil*).

Head not longer than broad, triangular ; antennæ filiform, the second joint short, the third and fourth equal, each much longer than the second. Thorax nearly twice as broad as long ; sides diverging from the base to beyond the middle, thence obliquely converging to the apex ; upper surface transversely convex, hinder disk with two large, rather deeply impressed foveæ. Elytra oblong, convex, nearly impunctate ; flavous limb abbreviated just before reaching the sutural angle, its extreme apex slightly dilated.

D. abbreviata may be known from *D. cinctella*, v. Harold, with which it otherwise agrees, by the absence of the longitudinal groove below the humeral callus.

54. *DIABROTICA CINCTELLA*, v. *Harold*, *Mittheil. d. Münchener ent. Ver.* 1877, p. 110.

Hab. Muzo ; Mompos, El Regedor.

The specimens which I have referred to the above species have black elytra, with the outer limb (abbreviated near the sutural angle) narrowly flavous ; disk very minutely and remotely punctured ; on the outer disk, below the humeral callus, is a deep strongly punctured longitudinal groove, which extends for one third the length of the elytron, its inner edge subcostate.

55. *DIABROTICA PUELLA*. Oblonga, postice vix ampliata, convexa, nigra, nitida ; femoribus flavo-albidis, abdominis disco sordide fulvo ; capite (antennis exceptis) thoraceque pallide fulvis ; hoc transverso, disco subarcuatim excavato ; elytris convexis, disco subtiliter, ad latera magis distincte, punctatis, infra callum humeralem longitudinaliter sulcatis ; limbo externo, apice extremo abbreviato, fascia arcuata

vix ante apicem posita, ad marginem adfixa, maculaque parva discoidali prope medium sita, flavo-albidis. Long. $1\frac{1}{2}$ lin.

Var. A. Elytrorum macula discoidali obsoleta.

Hab. Muzo ; Medellin ; Eastern Colombia (*Winkler*).

Head rather longer than broad, triangular ; encarpæ thickened, contiguous ; carina moderately elevated, linear ; labrum and palpi nigro-piceous. Antennæ filiform, the basal joint beneath piceous ; the second joint short, the third twice as long, equal in length to the fourth. Thorax more than one half as broad again as long ; sides rather broadly margined, straight and slightly diverging from the base to beyond the middle, thence obliquely converging to the apex ; surface shining, impunctate, middle disk with a broad transverse excavation, which is rather more deeply impressed on either side. Elytra narrowly oblong-ovate, very slightly dilated posteriorly, convex, flattened along the suture ; each elytron with a deeply impressed, distinct longitudinal groove, which commences below the humeral callus and runs downwards to some little distance below the middle of the disk ; this groove, which curves slightly inwards, is bounded on its outer edge by a distinctly elevated costa ; the surface of the groove, together with the space between it and the outer margin, strongly punctured ; rest of the disk very minutely punctured ; the subapical flavous fascia is broad and placed immediately before the apex of the elytra ; it is sometimes abbreviated at the extreme sutural margin.

G. Body oblong-elongate, dilated posteriorly ; elytra metallic blue or green, the outer limb, together with a medial fascia, flavous ; each elytron in the male with a slightly curved subapical tubercle placed near the suture.

56. DIABROTICA ADONIS, *Baly, Ann. & Mag. Nat. Hist.* ser. 3, 1859, p. 272.

D. zonata, v. *Harold, Col. Hefte*, xiii. 1875, p. 91.

Var. A. Tibiis tarsorumque articulis basalibus duobus flavis.

Hab. Coper, Magdalena River ; var. A, Muzo.

57. DIABROTICA PULCHRA, *Baly, Trans. Ent. Soc.* 1865, p. 345.

D. gloriosa, v. *Harold, Mittheil. d. Münchener ent. Ver.* 1877, p. 110.

Hab. Fusagasuga : coll. Steinheil. Magdalena River : my collection.

- H. Body subelongate, dilated posteriorly; elytra black, with fulvous markings; disk obsoletely vittate-sulcate; intermediate joints of antennæ thickened and elongate in the male sex.

58. *DIABROTICA STEINHEILI*. Subelongata, postice paullo ampliata, flava, nitida; thorace, scutello femoribusque rufo-fulvis; tibiis, tarsis, metapectore capiteque nigris; antennis elongatis, piceis, articulis ultimis tribus sordide albidis; elytris tenuiter sat crebre punctatis, leviter longitudinaliter sulcatis; nigris, macula subbasali, apice lato, limbo laterali fasciaque lata prope medium, flavis. Long. $3\frac{1}{2}$ lin.

Var. A. Elytrorum macula subbasali flava obsoleta.

Var. B. Elytrorum fascia mediali flava extrorsum abbreviata.

Var. C. Elytrorum fascia obsoleta.

Mas. Antennis corpus superantibus, articulis tertio ad quintum paullo incrassatis, elongatis; sexto ad undecimum brevioribus, gracilibus; tarsorum anticorum articulo basali dilatato.

Fem. Antennis brevioribus, articulis tertio ad quintum non incrassatis.

Hab. Coper.

Head scarcely longer than broad, triangular; vertex smooth, impunctate; encarpæ transverse, contiguous; carina short, thickened, very narrowly wedge-shaped. Antennæ in the male longer than the body, the second joint short, the third more than three times its length; the third, fourth, and fifth equal in length, thickened, but each gradually decreasing in thickness from the preceding one; the third and fourth abruptly thickened at the extreme apex; the fourth and fifth slightly curved; the sixth and following joints to the apex abruptly decreased both in length and thickness, slender, filiform, each joint being about half the length of the fifth. Thorax twice as broad as long; sides bisinuate, converging beyond the middle, the hinder angles produced, acute, distinctly reflexed, the anterior ones produced, thickened, obtuse; upper surface impunctate, flattened on the hinder disk, faintly excavated transversely just in front of the basal margin. Elytra broader than the thorax, narrowly oblong, slightly dilated posteriorly, convex, faintly excavated below the basilar space, the latter obsoletely thickened; surface rather closely and distinctly punctured; each elytron with a number of shallow longitudinal sulcations, their interspaces slightly thickened.

I. Body ovate, dilated posteriorly, strongly convex; elytra subventricose, closely and coarsely punctured; very variable in coloration.

59. *DIABROTICA HEBE*, *Baly, Trans. Ent. Soc.* 1865, p. 348.

TYPE. Nigra, nitida; vertice thoraceque trifoveolato rufo-piceis; femoribus antennisque flavis, harum articulis quinque basalibus dorso piceis; elytris castaneis, margine laterali, tertia parte postica, fasciaque vix pone medium sordide flavis.

Var. A. Elytra flava, fascia basali, alteraque vix pone medium violaceo-metallicis, cæteris ut in typo.

Var. B. Subtus flava; abdomine, tibiis tarsisque nigris; antennarum articulis basalibus quatuor dorso nigris; elytris castaneis.

Var. C. Subtus nigra, pedibus flavis; supra castanea, antennis flavis, scutello nigro.

Var. D. Nigra, elytris ut in typo, sed signaturis castaneis fere obsoletis.

Var. E. Nigra, elytris fulvis, plaga scutellari fasciaque prope medium metallico-violaceis.

Var. F. Subtus æneo-nigra, supra cum pedibus nigra; elytris flavis, fascia vix pone medium, utrinque abbreviata, metallico-purpurea.

Var. G. Nigra, abdomine æneo vix tincto; thorace nigro-piceo; elytris castaneis, utrisque ante medium fascia obsoleta fulva, linea suturali alteraque marginali, hac ante apicem abbreviata, nigris.

Var. H. Nigra, abdomine æneo tincto; elytris nigro-cæruleis.

Hab. Type and var. E, Bogota: my collection. Vars. A, B, C, and H, La Vega: coll. Steinheil. Var. D, Colombia: my collection. Var. F, Fusagasuga: coll. Steinheil. Var. G, Paine: coll. Steinheil.

J. Body subelongate, dilated posteriorly; elytra black or nigro-cyaneous, with flavous markings.

60. *DIABROTICA DEYROLLII*, *Baly, Trans. Ent. Soc.* 1865, p. 347.

Hab. Canaos: coll. Steinheil. Magdalena River: my collection.

In H. Steinheil's specimen the transverse band on the elytra is separated into two subovate spots; there is also a narrow and elongate additional spot, placed close to the outer margin and parallel to the subbasal patch; lastly, the abdomen is piceous at the base; in all other respects it agrees with the type.

61. *DIABROTICA SPECTANDA*. Subelongata, postice paullo ampliata, convexa, fulva, nitida; pectore, scutello capiteque nigris, antennis piceo-fulvis, apice flavo-albidis; thorace transversim convexo, lævi;

elytris oblongis, tenuissime punctatis, nigris; limbo laterali, macula pone basin, fascia vix pone medium, apiceque lato, flavis. Long. 2 lin.

Hab. Medellin.

Head not longer than broad, triangular; antennæ filiform; second joint short, the third more than twice as long, equal in length to the fourth. Thorax nearly one half broader than long; sides straight and parallel from the base to beyond the middle; transversely convex, the usual discoidal foveæ obsolete. Elytra oblong, convex, minutely punctured.

K. Body subelongate or narrowly oblong, dilated posteriorly; elytra flavous, with darker markings.

62. *DIABROTICA SPILOPTERA.* Elongato-ovata, postice vix ampliata, nigra, nitida; femoribus abdomineque flavis, tibiis tarsisque nigro-piceis; antennarum articulis nono, decimo et undecimo (hujus apice excepto) albidis; thorace subquadrato, tenuiter punctato, utrinque foveolato; elytris fulvis, utrisque maculis quinque nigris ornatis, harum prima super callum humeralem trigonata, duabus prope medium, necnon duabus inter medium et apicem, his quatuor per paria transversim positis, subrotundatis, nigris. Long. $2\frac{1}{4}$ lin.

Hab. Oceana (*Landolt*).

Front impressed with an elongate fovea; carina well defined; antennæ filiform, the second joint short, the third more than twice as long as the second, equal in length to the fourth. Thorax subquadrate; sides straight and parallel, distinctly angulate before the middle, the anterior angles thickened obtuse, the hinder ones acute; disk finely punctured, impressed on either side with a deep fovea. Elytra finely but distinctly punctured.

63. *DIABROTICA NIGROVITTULATA.* Anguste oblongo-ovata, postice paullo ampliata, convexa, flava, nitida; postpectore, scutello capiteque nigris; antennarum articulis 7 8que albidis; thorace transverso, disci medio obsolete excavato; elytris crebre punctatis, vittulis sex, 3 ante et 3 pone medium positis, duabus internis communibus, nigris. Long. $2\frac{2}{3}$ lin.

Hab. Colombia (*Dyson*). A single specimen in my own collection.

Head not longer than broad, triangular; antennæ with the second joint very short, the third three times as long as the preceding one, equal in length to the first, the fourth joint rather longer. Thorax twice as broad as long; sides nearly straight and parallel from the base to beyond the middle, thence converging to the apex; transversely convex, slightly

flattened and obsoletely excavated on the disk. Elytra oblong, slightly dilated towards the apex, convex, rather strongly punctured; surface with six short black vittæ, arranged transversely in two series, one placed at the base and extending nearly to the middle, the second extending from below the middle nearly to the apex, the middle vitta in each row common.

64. *DIABROTICA NIGROGUTTATA*. Anguste oblonga, convexa, sordide fulva; oculis scutelloque nigris, macula verticali picea; thorace quam longo distincte latiori, lævi, obsolete punctato, disco leviter subarcuatum excavato; elytris distincte subcrebre punctatis, utrisque maculis sex, duabus infra basin, duabus prope medium duabusque ante apicem, transversim dispositis, nigris. Long. 3 lin.

Hab. Nare; Mompos.

Head trigonate, not longer than broad, vertex shining, remotely punctured; third and fourth joints of antennæ nearly equal in length, each much longer than the second. Thorax broader than long; sides parallel for the greater part of their extent, sinuate from the base to beyond the middle; disk with an ill-defined sublunate excavation. Elytra oblong, slightly dilated towards the apex, moderately convex, distinctly but not closely punctured; each elytron with six black patches, arranged transversely in pairs as follows:—two below the base, the outer one covering the humeral callus, two about the middle, the outer one sublinear; and lastly, two halfway between the middle and the apex, this last pair being placed more obliquely than the previous ones.

65. *DIABROTICA CIRCULATA*, v. *Harold, Col. Hefte*, xiii. p. 91.

Hab. Colombia, my collection; also Guatemala and Mexico.

In the specimens before me the head is black, not nigro-æneous.

66. *DIABROTICA PICEO-LINEATA*. Anguste oblonga, postice paullo ampliata, flava, nitida; thorace transversim excavato, utrinque magis fortiter oblique impresso; elytris oblongis, subcrebre punctatis, vitta costata submarginali, infra humerum interrupta, apicem versus abbreviata, linea discoidali brevi, maculaque parva subscutellari communi, pallide piceis. Long. $2\frac{3}{4}$ lin.

Hab. Colombia (*Dyson*).

Head not longer than broad, subrotundate; eyes large, black; third joint of antenna more than twice as long as the second, equal in length to the fourth. Thorax about one third broader than long; sides parallel and sinuate from their base to beyond the middle, thence obliquely converging to the apex; disk broadly excavated, more deeply impressed on either side with a deep

oblique fovea. Scutellum piceo-flavous. Elytra oblong, slightly dilated posteriorly, convex, slightly depressed below the basilar space, distinctly punctured; on each is a sublateral piceous costa, which commences on the humeral callus and terminates abruptly at a short distance before reaching the apex of the elytron; the costa itself is entire, but the piceous coloration is interrupted for a short space below the humeral callus; on the middle third of the inner disk is a narrow piceous line; immediately below the scutellum is also a small pale piceous spot.

L. Body ovate, dilated posteriorly, convex; elytra closely and irregularly punctured; piceous, with flavous vittæ.

67. *DIABROTICA ALTERNATA*. Ovata, postice paulo dilatata, convexa, nigra, nitida; pedibus flavis; genubus, scutello, ore antennisque piceis, harum articulis sexto, septimo undecimoque fuscis, octavo, nono decimoque albidis; thorace transverso, subremote punctato, disco bifoveolato, medio longitudinaliter sulcato; elytris fortiter subcrebre punctatis, punctis prope suturam subseriatim dispositis; utrisque limbo vittaque discoidali a basi fere ad apicem extensa, flavis. Long. $2\frac{3}{4}$ lin.

Hab. Magdalena River.

Head longer than broad, triangular; vertex smooth, nigropiceous; clypeus rugose, clothed with adpressed silky hairs; antennæ filiform, the second joint short, the third nearly twice as long as the second, equal in length to the fourth. Thorax nearly twice as broad as long; sides straight and parallel from the base to beyond the middle, then converging towards the apex; apical border, together with the upper portion of the lateral margin, narrowly edged with piceous; upper surface transversely convex; disk impressed on either side with a large oblique shallow and ill-defined fovea; medial line behind the middle with a shallow longitudinal depression; surface distinctly, but rather distantly, punctured. Elytra convex, strongly punctured.

M. Elytra ovate, dilated posteriorly, strongly convex, their apices obtuse or obtusely rounded; subseriate or irregularly punctured, the hinder disk often faintly elevate-vittate; lower face in the male (in the majority of the species) deeply excavated.

68. *DIABROTICA BEATA*. Ovata, postice ampliata, valde convexa, nigra, nitida; pedibus antennisque flavis, his apice nigro-piceis; thorace lævi, remote tenuiter punctato, disco utrinque fovea obliqua profunde impresso; elytris late oblongis, apicem versus paulo am-

pliatiss, apice obtusis; sat valde convexis, infra basin prope suturam leviter transversim depressis, subseriatim punctatis, pone medium obsolete elevato-vittatis; nigris, fasciis duabus, una infra basin, plerumque interrupta, altera prope medium, ad marginem vix abbreviata, limboque apicali, flavis. Long. 3 lin.

Var. A. Elytrorum fascia subbasali obsoleta.

Mas. Facie inferiori non excavata; antennarum articulis, basali curvato, a paulo ante basin ad apicem incrassato, secundo brevi, compresso, tertio quam ille duplo longiori, quarto ad præcedentes duos æquilongo, leviter curvato.

Fem. Antennis filiformibus, articulo tertio quam quartus paulo breviori.

Hab. Santa Marta; Magdalena River; Muzo; Western Colombia (*Winkler*); Venezuela, Bogota.

Head scarcely longer than broad, subtrigonate; clypeus in either sex with an ill-defined slightly raised longitudinal ridge. Antennæ in the female slender, filiform, the third joint rather shorter than the fourth; in the male the antennæ are more robust than in the female, the first joint being curved below the middle, slender at the base, and thence thickened to the apex; the second very short, compressed and only half the length of the third; whilst the fourth, which is slightly curved, is as long as the preceding two united. Thorax one half broader than long; sides straight and parallel from the base to the middle, thence obliquely converging to the apex, the hinder angle acute; disk smooth, finely but remotely punctured, deeply impressed on either side with an oblique oblong fovea. Elytra broadly oblong, gradually dilated towards the apex, the latter obtuse, very strongly convex, transversely excavated on the suture below the basilar space; subseriate-punctate, the puncturing finer than in *D. Jekelii*; hinder disk with several ill-defined longitudinal costæ.

This species stands very close to *D. mimula*, v. Harold, an insect I only know from the author's diagnosis. The male differs in the absence of the tooth at the apex of the basal joint of the antennæ, and in the second joint of the latter being compressed and unilaterally dilated, not subglobose as stated by H. v. Harold. There is also a difference in the coloration of the elytra; the author gives the marginal limb as testaceous; in the present insect the apical limb is flavous, the lateral margin being concolorous with the disk. In all the specimens that I have seen, some twenty in number, this character is constant.

69. DIABROTICA MIMULA, v. *Harold*, *Col. Hefte*, xiii. p. 92.

Hab. New Granada.

I do not know any insect which I can refer with certainty to the above species. The female of *D. Jekelii* quite agrees in coloration with v. *Harold*'s description, but the male of that species differs entirely in possessing an excavated clypeus.

70. DIABROTICA JEKELII. Ovata, postice ampliata, valde convexa, nigra; capite thoraceque flavo-fulvis, pedibus (femoribus basi exceptis) antennisque pallide flavis, his apice tarsisque infuscatis; thorace lævi, sat profunde bifoveolato; elytris late oblongis, ad apicem paullo ampliatas, apice obtusis; convexis, fortiter subseriato-punctatis, pone medium obsolete elevato-vittatis; nigris, fasciis duabus angustis, una infra basin, altera vix pone medium positis, limboque externo flavis. Long. 3 lin.

Mas. Facie inferiori profunde excavata, nigra; antennis gracilibus, articulo secundo brevi, subclavato, tertio apice oblique truncato, ad quartum fere æquilongo, articulis quarto et sequentibus obsolete carinatis.

Hab. Colombia.

Head slightly longer than broad, subtrigonate; lower portion of face in the ♂ occupied by a deep, smooth, concave excavation, which covers the upper four fifths of the clypeus; the lower face in the same sex is black; the clypeus in the ♀ is slightly convex, its medial line being faintly carinate; labrum black in both sexes; antennæ in the ♂ filiform, the third and fourth joints equal, each more than twice the length of the second. Thorax more than one half broader than long; sides straight and parallel from the base to the middle, thence obliquely converging to the apex, hinder angle acute; disk smooth, impressed on either side with a deep subrotundate fovea. Elytra broadly oblong, slightly increasing in width towards the apex, the latter obtusely rounded; upper surface strongly subseriate-punctate, irregularly wrinkled on the sides; hinder disk with a few faint traces of longitudinal costæ similar to, but much less distinct than, in *D. bella*.

Similar in coloration to *D. mimula*, v. *Harold*, but from that species the excavated face in the male at once separates it. The male of the present species may be known from the same sex in *D. bella* by the difference in shape of the excavated portion of the lower face. In the female of *D. Jekelii*, the third joint of the antennæ is nearly equal in length to the fourth, its apex being obliquely truncate; in *D. bella* the third is distinctly shorter than the following joint; the elytra are also less convex and less strongly costate than in the latter insect.

71. *DIABROTICA JUCUNDA*. Ovata, postice ampliata, valde convexa, piceo-nigra aut nigra, nitida, capite thoraceque rufo-fulvis, pedibus antennisque flavis, his extrorsum infuscatis, scutello piceo; thorace minute, remote punctato, disco utrinque oblique foveolato; elytris late oblongis, apicem versus ampliatis, apice obtusis; convexis, infra basin prope suturam leviter transversim depressis; subseriato-punctatis, flavis, utrinque puncto humerali, fascia irregulari ante medium maculaque trigonata inter medium et apicem posita, piceis. Long. 2 lin.

Mas. Facie inferiori profunde excavata; antennis filiformibus, articulo tertio quam quartus breviori.

Hab. Colombia.

Head trigonate; lower face occupied by a deep concave excavation, which covers the upper four fifths of the clypeus; antennæ filiform, the third joint distinctly shorter than the fourth. Thorax one half broader than long; sides parallel and sinuate from the base to the middle, thence obliquely converging to the apex; upper surface very finely and remotely punctured; disk impressed on either side with an oblique oblong fovea. Elytra broadly oblong, dilated towards the apex, the latter obtuse; strongly convex, slightly depressed transversely below the basilar space, subseriate-punctate; flavous, each elytron with a small spot on the humeral callus, a narrow irregular fascia just before the middle, together with a triangular patch situated between the middle and the apex, piceous.

72. *DIABROTICA BELLA*. Ovata, postice ampliata, valde convexa, nitida, subtus nigra, pedibus flavis; supra rufa, antennis fulvis, apice infuscatis; thorace lævi, remote et tenuiter punctato, utrinque profunde foveolato; elytris late oblongis, postice paullo ampliatis, apice obtusis; subventricosis, infra basin transversim excavatis, fortiter subseriatim punctatis, a paullo infra basin fere ad apicem distincte elevato-vittatis; rufo-piceis, fasciis duabus, una infra basin, altera vix pone medium positis, margineque apicali fulvis. Long. 3 lin.

Mas. Facie inferiori profunde transversim excavata, clypeo antico tumido; antennarum articulo secundo subclavato, tertio illo vix duplo longiori, quarto præcedentibus duobus conjunctis longiori, basi paullo curvato.

Hab. Magdalena River.

Front finely punctured, faintly rugulose; upper half of the clypeus in the ♂ deeply excavated, the lower portion of this segment thickened on the medial line; lower face in the ♀ transversely convex, coarsely punctured; antennæ in the ♂ with the

second joint subclavate, the third scarcely twice its length, and the fourth, which is very slightly curved at its base, longer than the two united; in the ♀ these organs are more slender, and the third joint is twice the length of the second, being only slightly shorter than the fourth. Thorax about one half broader than long; sides nearly parallel and slightly sinuate from the base to beyond the middle, thence obliquely converging towards the apex, the hinder angle acute; disk finely but remotely punctured, deeply bifoveolate. Elytra strongly convex, subventricose, transversely excavated below the basilar space; surface strongly subseriate-punctate, irregularly wrinkled towards the apex; each elytron with four or five longitudinal costæ, which commence below the basilar space and extend nearly to the apex.

The difference in the excavation of the face in the ♂, together with the more distinctly raised vittæ on the elytra, will separate this species from its congeners.

73. *DIABROTICA STEVENSI*.

Cerotoma Deyrollii, Baly, *Trans. Ent. Soc.* 1866, p. 477.

Hab. Colombia, Magdalena River; Venezuela, Bogota.

In the first instance I erroneously placed this species in *Ceratomya*; having subsequently discovered my mistake and ascertained that the insect belongs to the present genus, I am compelled to alter the specific name, *Deyrollei* having already been used by myself for a species (also from Colombia) described in the Transactions of the Entomological Society for 1865, p. 347.

I know three female specimens of this species; in all the third and fourth joints of the antennæ are equal in length; the male is unknown to me.

74. *DIABROTICA LÆTA*, *Fabr. Syst. El.* i. p. 454.

Ovata, postice ampliata, valde convexa, nigro-picea, nitida; scutello, thorace capiteque piceo-fulvis; pedibus antennisque flavis, his extrorsum nigris; thorace lævi, utrinque transversim foveolato; elytris late oblongis, postice paullo ampliatis, apice obtusis; convexis, suberebre punctatis; nigris aut nigro-piceis, utrisque limbo externo, fascia prope medium, sutura pone fasciam, nec non maculis una vel duabus infra basin flavis. Long. $2\frac{2}{3}$ lin.

Var. A. Elytrorum vitta suturali fere ad basin extensa.

Var. B. Elytrorum vitta suturali obsoleta.

Mas. Facie inferiori late et profunde excavata; antennis filiformibus, articulo tertio quam quartus paullo breviori; articulis quarto et sequentibus intus compressis, carinatis.

Hab. Cayenne (type) ; vars. A and B, Colombia.

Head longer than broad, trigonate ; face in the male with a large concave smooth excavation, which occupies the upper two thirds of the clypeus ; antennæ in the same sex slightly more robust than in the female, the fourth and following joints slightly compressed on their inner edge, the latter obsoletely carinate ; in the female the antennæ are simple, the clypeus being transversely convex, and obsoletely carinate at its base. Thorax one half broader than long ; sides straight and nearly parallel from the base to the middle, thence obliquely converging towards the apex ; disk smooth, impressed on either side with a shallow transverse fovea. Elytra oblong, slightly dilated towards the apex, the latter obtuse ; above convex, finely but distinctly punctured.

Narrower and less convex than *D. beata* ; most similar in shape to *D. clypeata*, but differing from that insect in the more slender antennæ in the male, in the finer punctuation of the elytra, and in the entirely different coloration. This species is usually placed in the genus *Cerotoma*.

75. DIABROTICA CLYPEATA. Ovata, postice paullo ampliata, valde convexa, nigra, nitida ; abdomine, pedibus antennisque flavis, his apice infuscatis ; thorace rufo-fulvo, leviter bifoveolato ; elytris oblongis, apicem versus paullo ampliatis, apice obtusis ; convexis, sat fortiter, subcrebre punctatis ; flavis, utrisque maculis tribus, duabus infra basin, transversim positis, tertia ante apicem, subquadrata, fasciaque prope medium, utrinque abbreviata, nigris. Long. 3 lin.

Mas. Facie inferiori profunde et late excavata ; antennarum articulo tertio quam quartus vix breviori, quarto et sequentibus intus paullo compressis, carinatis.

Hab. Colombia : my collection.

Head rather longer than broad, trigonate ; whole of the lower face with a large, smooth, concave excavation, which extends upwards as far as the base of the antennæ, the latter more robust than in *D. lata*, the fourth joint distinctly longer than the third ; inner edge of the fourth and following joints compressed, narrowly carinate. Thorax nearly one half broader than long ; sides nearly parallel and slightly sinuate from the base to beyond the middle, thence converging towards the apex ; transversely convex, disk impressed on either side with a distinct but shallow fovea. Elytra convex, rather strongly but not very closely punctured.

76. *DIABROTICA XANTHOPTERA*. Ovata, postice ampliata, sat valde convexa, nigra, nitida; capite thoraceque rufo-testaceis, pedibus antennisque flavis, his apice infuscatis, scutello piceo; thorace lævi, minute punctato, utrinque fovea obliqua profunde impresso; elytris late oblongis, postice ampliatis, apice obtuse rotundatis; sat valde convexis, flavis, subseriato-punctatis, punctis piceo tinctis, lineis longitudinalibus nonnullis impunctatis instructis. Long. $3\frac{1}{2}$ lin.

Mas. Facie inferiori profunde excavata, nigra.

Hab. Magdalena River.

Head longer than broad, subtrigonal; labrum piceous; antennæ slender, the third and fourth joints equal in length. Thorax one half broader than long; sides parallel and slightly sinuate from the base to the middle, thence obliquely converging towards the apex; disk smooth, very minutely and subremotely punctured, deeply depressed on either with an oblique oblong fovea. Elytra broadly oblong, dilated towards the apex, the latter obtusely rounded; above rather strongly convex, subseriate-punctate, the punctures more or less stained with piceous; inner disk with several narrow impunctate longitudinal lines. The apices of the elytra are rather less obtuse than in the other species of this subsection. The antennæ in the only male known to me are broken off.

77. *DIABROTICA FENESTRATA*. Ovata, convexa, postice ampliata, sat valde convexa, nigra, nitida; capite thoraceque rufo-testaceis, pedibus antennisque flavis, scutello piceo; thorace lævi, disco utrinque foveolato, spatium inter foveas transversim depresso; elytris subseriatim punctatis, pone medium obsolete elevato-vittatis, utrisque limbo (limbo suturali pone medium obsoleto), fasciis duabus, una ante, altera vix pone medium positis, vittaque discoidali a basi ad fasciam primam extensa, flavis. Long. 3 lin.

Hab. Venezuela: a single specimen from the late Mr. W. W. Saunders's collection.

Head scarcely longer than broad; labrum and mouth black; clypeus smooth, remotely punctured, medial line with a faint longitudinal ridge; antennæ filiform, the third and fourth joints equal in length. Thorax one half as broad again as long; sides straight and parallel from the base to the middle, thence obliquely converging to the apex; disk smooth, impressed on either side with a deep subrotundate fovea, the space between the foveæ narrowly depressed. Elytra broadly oblong, dilated towards the apex, the latter obtuse; above convex, rather strongly punctured; hinder disk with several ill-defined longitudinal ridges.

Nearly allied to *D. læta*, more convex and more strongly punctured than that species; the third and fourth joints of the antennæ equal in length.

78. *DIABROTICA IMITANS*, *Jacoby*, *Proc. Zool. Soc.* 1879, p. 791.

Hab. Venezuela.

Nearly allied to *D. clypeata*; differing (according to the author's description) in having the lower face only black, and in the interspaces on the elytra being faintly rugulose: the sculpturing of the thorax also differs; in the present species it is described as "obsoletely transversely depressed," in *D. clypeata* it is impressed on either side with a distinct fovea.

79. *DIABROTICA DELICIOSA*. Anguste ovata, postice ampliata, valde convexa, nigra, nitida; pedibus flavo-fulvis, capite thoraceque rufis, hoc lævi, bifoveolato; scutello oreque piceis; elytris flavis, piceo punctatis, punctis sat fortiter impressis; utrisque maculis duabus infra basin transversim positis, plagaque magna subapicali, fere ad marginem et ad suturam extensa, nigris. (*Antennæ desunt.*) Long. 3 lin.

Hab. Colombia: a single specimen in my collection.

Head longer than broad, wedge-shaped; labrum and mouth piceous, lower face nearly plane; the antennæ (in the single specimen before me) broken off. Thorax one half broader than long; sides sinuate and slightly converging from the base to the middle, thence obliquely converging to the apex; upper surface transversely convex, disk remotely and very finely punctured, bifoveolate. Elytra oblong, gradually dilated towards the apex, the latter obtusely rounded, strongly convex, rather strongly but not very closely punctured, punctures piceous.

N. Body broadly ovate, dilated posteriorly, convex; coloration of elytra variable. Male in some species with a subapical tubercle placed near the sutural margin; the antennæ in the same sex rarely compressed and serrate.

80. *DIABROTICA BUTLERI*. Ovata, postice ampliata, valde convexa, sordide flava, nitida; abdomine tarsisque nigris, metapectore, femoribus anticis basi, tibiisque obscure piceis; thorace transverso, lævi, distincte bifoveolato; elytris subventricosis, ante medium minus crebre, sat fortiter punctatis, pone medium nigris, minus nitidis, crebre et fortiter punctatis. Long. 4 lin.

Hab. S. Rosa, Manizalis: coll. Steinheil; also Medellin: my collection.

Clypeus transverse, pentangular, carina obsolete; antennæ more than three fourths the length of the body, filiform, the third joint twice the length of the second, more than three fourths the length of the fourth. Thorax scarcely one third broader than long; sides straight and parallel from the base to beyond the middle, thence obliquely converging to the apex, all the angles acute; disk smooth and shining, impressed on either side with a deep fovea. Elytra broadly ovate, enlarged posteriorly, convex, transversely depressed below the basilar space, subventricose posteriorly, the hinder half black; the anterior half rather strongly but not very closely punctured, the black hinder surface very closely and deeply punctured.

81. *DIABROTICA INTERMEDIA*. Ovata, postice ampliata, valde convexa, flavo-picea, nitida; antennis, pedibus (femoribus exceptis) abdomineque nigris; thorace lævi, fere impunctato; elytris subcrebre punctatis, pone medium nigris, viridi tinctis, granuloso-punctatis. Long. $4\frac{1}{2}$ lin.

Hab. Colombia: my collection. Coper: coll. Steinheil.

Head longer than broad; antennæ filiform, the first and third joints equal in length, the second short, basal joint nigro-piceous. Thorax broader than long; sides parallel and faintly sinuate from the base to some distance beyond the middle, thence obliquely converging to the apex; disk transversely convex, nitidous, faintly impressed on either side with a few very minute punctures. Elytra broadly oblong, dilated posteriorly, very convex, distinctly but not very closely punctured; hinder disk black, strongly tinged with metallic green, very finely granulose-punctate, subopaque.

Broader than *D. Butleri*, hinder half of elytra less coarsely granulose-punctate.

82. *DIABROTICA POSTICATA*. Ovata, postice ampliata, convexa, flava, nitida; antennarum articulis intermediis nigro-piceis; abdomine elytrorumque dimidio postico nigris; thorace transverso, leviter arcuatum excavato; elytris tenuiter punctatis, punctis ad apicem fere delictis. Long. $2\frac{1}{2}$ lin.

Hab. Fusagasuga; Eastern Colombia (*Winkler*); Magdalena River.

Head much longer than broad, wedge-shaped; vertex smooth, impunctate; encarpæ trigonate, contiguous; carina linear. Antennæ filiform, the second joint half the length of the basal

one, rather more than half the length of the third, the latter scarcely shorter than the fourth; the extreme apex of the third, together with the fourth to the seventh joints, nigro-piceous. Thorax nearly twice as broad as long; sides straight and very slightly diverging from the base to beyond the middle, thence converging to the apex; above smooth, impunctate, hinder disk with a broad, shallow, subarcuate excavation. Elytra much broader than the thorax, broadly ovate, dilated towards the apex; above convex, slightly flattened along the suture, finely but distinctly punctured, the punctures nearly obsolete on the hinder disk; the hinder portion of the surface entirely covered by a large common black patch, which extends from just before the middle disk to the apex; owing to the flavous colouring extending rather lower on the sides, the anterior margin of the patch is convex.

83. *DIABROTICA LUGUBRIS*, *Dejean, MS.* Late ovata, postice ampliata, convexa, nigra, nitida; thorace obsolete subarcuatim excavato; elytris remote punctatis, flavo-albidis, utrisque plagis magnis duabus, una ante, altera pone medium, nigris. Long. $2\frac{1}{2}$ lin.

Hab. Colombia.

Head not longer than broad; antennæ equal to the body in length, filiform, third joint nearly twice the length of the second, nearly equal to the fourth. Thorax twice as broad as long; sides parallel and nearly straight from the base to the apex, slightly sinuate behind the middle; anterior angle obliquely truncate; transversely convex, finely and somewhat irregularly but not closely punctured, hinder disk with a large, shallow, ill-defined, semilunate depression. Elytra convex, gradually dilated posteriorly, the outer limb narrowly dilated; surface subremotely punctured.

84. *DIABROTICA LEUCOSPILA.* Late ovata, postice ampliata, convexa, nigra, nitida; thorace transverso, tenuiter, remote punctato, disco evidenter arcuatim excavato; elytris late oblongis, postice ampliatis, modicè convexis, sat fortiter subcrebre punctatis; limbo externo maculisque magnis quinque, duabus ad basin, tribus prope medium, harum una communi, duabusque apicalibus albidis. Long. 2 lin.

Mas. Elytris singulis callo subconico, ante apicem juxta suturam posito, instructis.

Hab. Magdalena River.

Head scarcely longer than broad. Antennæ nearly three

fourths the length of the body, robust, filiform, slightly thickened towards the apex; second joint short, subovate, third and fourth equal, each nearly twice the length of the second. Thorax nearly twice as broad as long; sides straight and parallel, slightly converging at the apex; upper surface transversely convex, disk with a shallow sublunate excavation, ill-defined on the medial line, but more distinct on either side. Elytra subquadrate-ovate, slightly dilated posteriorly, moderately convex, obsoletely depressed below the basilar space; strongly punctured, the interspaces minutely punctate; the outer limb and five large patches on the disk white. These patches are arranged as follows:—two at the base, one on each elytron, covering the humeral callus, and extending to the outer margin; three across the middle, the middle one common, the others lateral and attached to the outer limb; lastly two, larger than the others, placed one at the apex of each elytron.

85. *DIABROTICA TETRASPILOTA*. Late ovata, postice ampliata, convexa, nigra, nitida; thorace pallide flavo, late subarcuatum excavato, utrinque magis fortiter impresso; elytris subcrebre punctatis, punctis apicem versus fere deletis; flavo-albidis, utrisque plagis magnis duabus nigris, prima subrotundata, a basi ad tertiam partem elytri extensa, secunda subquadrata, vix pone medium posita. Long. $2\frac{1}{2}$ lin.

Mas. Elytris utrisque callis duobus, ante apicem oblique positis, primo valido, subconico, prope suturam, secundo parvo, paullo elevato, prope marginem externum.

Hab. Fusagasuga: coll. Steinheil. Colombia: my collection.

Head triangular; vertex smooth, impunctate; front impressed above the encarpæ with a deep fovea; encarpæ thickened, transversely trigonate, shining black; carinæ distinct, linear; antennæ in the male equal to the body in length, filiform, the second joint ovate, two thirds the length of the third, the latter three fourths the length of the fourth. Thorax nearly twice as broad as long; sides straight and parallel from the base to the middle, slightly dilated and rounded before the latter; disk shining, impunctate, its middle broadly excavated, the excavation more deeply impressed on either side, its anterior margin straight, its hinder one arcuate. Elytra much broader than the thorax, dilated posteriorly, each rounded at the apex, the sutural angle very obtuse; above convex, rather closely and distinctly punctured, the puncturing much finer below the middle, nearly obsolete at the apex.

86. *DIABROTICA PROPINQUA*. Late ovata, postice ampliata, convexa, nigra, nitida; pedibus abdomineque piceo-fulvis; thorace transverso, granuloso, subcrebre punctato, late sed leviter arcuatim excavato; elytris subcrebre punctatis, utrisque plagis magnis duabus, una infra basin, altera pone medium, nigris. Long. 2 lin.

Hab. Sta. Martha.

Head not longer than broad, trigonate; clypeus with a strongly raised longitudinal ridge; antennæ with the third joint slightly longer than the fourth, the second joint short, the first to the seventh piceous, the eighth pale piceo-fulvous, the rest wanting. Thorax more than twice as broad as long; sides obliquely diverging from the base to beyond the middle, thence rounded and converging to the apex; upper surface transversely convex, granulose, finely but distinctly punctured; disk with a broad shallow semilunate excavation; lateral margin broad, reflexed. Elytra dilated towards the apex, the latter broadly rounded; convex, distinctly but not closely punctured, their interspaces minutely punctate; each elytron with two large black patches, the first subquadrate, placed below the base, the second rather less regular in shape, halfway between the middle and the apex.

87. *DIABROTICA ROBUSTA*. Late ovata, postice ampliata, convexa, flava, nitida; antennis, articulo basali excepto, femoribus dorso, tibiis tarsisque nigris; thorace lævi, transversim subarcuatim sulcato; elytris convexis, subremote punctatis, utrisque maculis tribus, duabus infra basin transversim positis, tertiaque vix pone medium, subrotundata, nigris. Long. $2\frac{1}{2}$ lin.

Hab. Muzo; Sta. Martha; Magdalena River; Bogota.

Head longer than broad, subcuneiform; clypeus with a longitudinal ridge; antennæ filiform, third and fourth joints equal, each twice the length of the second. Thorax twice as broad as long; sides parallel, slightly dilated and convex before the middle; transversely convex; hinder disk with an ill-defined semilunate excavation, which is rather more depressed on either side. Elytra convex, dilated posteriorly, narrowly depressed along the suture at the base, outer limb narrowly dilated; surface finely but not closely punctured.

88. *DIABROTICA SERRATICORNIS*. Late ovata, postice paullo ampliata, convexa, flavo-albida, nitida; tibiis, basi excepta, tarsisque piceis; scutello, ore oculisque nigris; antennis leviter infuscatis; thorace transverso, lævi, pone medium leviter transversim excavato; elytris

tenuiter punctatis, utrisque plaga infra basin alteraque pone medium, nigris. Long. $2\frac{1}{4}$ lin.

Mas. Antennarum articulis tertio ad sextum difformibus.

Hab. Magdalena River: my collection. Eastern Colombia (*Winkler*): coll. Steinheil.

Head not longer than broad, triangular, front with a longitudinal groove; clypeus with a faint longitudinal ridge. Antennæ with the second joint short, submoniliform, the third to the sixth thickened, the third equal in length to the first, clavate, its apex obliquely truncate, the fourth and fifth shorter, trigonate, equal, the sixth nearly equal in length to the third, clavate. Thorax twice as broad as long; sides slightly rounded, obliquely diverging from the base to the middle; transversely convex, slightly flattened on the disk; hinder disk with a shallow ill-defined transverse excavation. Elytra much broader than the thorax, convex, the outer limb narrowly dilated; surface finely but not closely punctured.

This species in general form closely resembles *D. robusta*.

89. *DIABROTICA INSIGNITA*. Late ovata, postice paullo ampliata, convexa, nigra, nitida; thorace transverso, lævi, utrinque leviter foveolato, rufo-testaceo; antennis apice elytrisq̄ flavo-albidis; his tenuiter punctatis, fasciis duabus, prima a basi ad quartam partem elytri longitudinis extensa, altera vix pone medium, extrorsum abbreviata, nigris, ornatis. Long. 2 lin.

Hab. Muzo; Medellin, Eastern Colombia (*Winkler*).

Head longer than broad, wedge-shaped; vertex shining, impunctate; encarpæ thickened, contiguous; carina raised, linear, well defined; antennæ filiform, the third joint nearly twice the length of the second, four fifths the length of the fourth, the ninth and tenth, together with the lower half of the eleventh, obscure white, the rest black. Thorax more than half as broad again as long; sides straight and parallel from the base to beyond the middle, thence converging to the apex; disk smooth, impressed on either side with a large and shallow fovea; at the base, just in front of the scutellum, is a third, much smaller than the others. Elytra broader than the thorax, oblong-ovate, slightly dilated towards the apex; convex, finely but not very closely punctured.

Subsection 2. Thorax pale with dark markings.

90. *DIABROTICA CHEVROLATI*, v. *Harold*, *Coleopt. Hefte*, xiii. 1875, p. 93.

Vár. A. Elytris pone medium fere totis fulvis.

Hab. Magdalena River, also Ecuador: my collection. Mexico (*Von Harold*).

91. *DIABROTICA SEXPLAGIATA*, *Jacoby, Proc. Zool. Soc. Lond.* 1878, p. 151.

Hab. Muzo: coll. Steinheil. Sta. Martha; Magdalena River: coll. Baly.

92. *DIABROTICA BIVITTATICOLLIS*. Elongata, convexa, flava, nitida; antennis extrorsum, femoribus posticis dorso, tibiis tarsisque posticis quatuor nigris; tibiis anticis dorso, tarsis anticis antennisque basi piceis; thorace transverso, disco profunde subarcuatim excavato, utrinque ad latus vitta lata, basi et apice abbreviata, nigra ornato; elytris rugulosis, fortiter punctatis, nigris, utrisque limbo externo, maculisque magnis tribus, una infra basis, secunda prope medium tertiaque inter medium et apicem positis, flavis. Long. 2 lin.

Hab. Magdalena River.

Head slightly longer than broad; antennæ slender, filiform, the second joint short, third and fourth nearly equal, each twice the length of the second; five lower joints piceous, the rest black. Thorax broader than long; sides straight and parallel from the base to just beyond the middle, thence obliquely converging to the apex; disk impressed with a deep semilunate excavation, which is rather more deeply excavated on either side. Elytra narrowly oblong, convex, rugulose, coarsely and deeply punctured.

93. *DIABROTICA LÆTABILIS*. Elongata, convexa, pallide flava, nitida; abdomine, scutello antennisque nigris, his basi piceis; vertice elytrisque læte metallico-viridibus; thorace transverso, late transversim excavato, utrinque prope marginem plaga nigro-picea ornato; elytris leviter rugulosis, minus crebre punctatis, infra callum humeralem elevato-bivittatis. Long. 1½ lin.

Hab. Magdalena River, Bogota.

Head not longer than broad, subrotundate; labrum nigro-piceous; vertex longitudinally grooved. Antennæ slender, filiform, second joint short, the third and fourth each much longer than the second, equal; four lower joints piceous, the rest black. Thorax more than half as long again as broad; sides parallel and sinuate from the base to beyond the middle, thence obliquely converging to the apex; disk broadly and transversely excavated. Elytra narrowly oblong, convex, faintly excavated below the basilar space, the latter slightly elevated; outer disk below the

humeral callus with two longitudinal costæ, which terminate at a short distance below the middle of the elytron; surface strongly but not closely punctured, irregularly wrinkled.

Similar in form to *D. bivittaticollis*; smaller, the thorax less deeply excavated; the elytra much less closely punctured.

APPENDIX.

Spec. 7 a. *DIABROTICA KLUGII*. Oblonga, postice ampliata, convexa, flava, nitida; capite, scutello, pectore, tibiis tarsisque nigris; thorace antennisque piceis, harum articulis penultimis duobus sordidi-albidis, thorace lævi, utrinque obsolete foveolato; elytris minute punctatis, maculis undecim, tribus basalibus, quatuor ante, et quatuor pone medium, transversim dispositis, nigro-cæruleis ornatis. Long. $2\frac{1}{2}$ lin.

Hab. Colombia, Magdalena River.

Antennæ piceous, in some specimens pale fuscous, second and third joints short, equal, the third equal in length to the preceding two. Thorax smooth, impunctate; disk impressed on either side with a small fovea. Markings on elytra disposed as in *D. spilota*, the outer one of the third row is sometimes obsolete. The black tibiæ and tarsi, together with the foveæ on the thorax, will separate this species from *D. spilota*.

DIABROTICA FUSCO-MACULATA, *Jacoby, Proc. Zool. Soc.* 1878, p. 994 = *D. ornatula, mihi, antea*, p. 224.

Subsequently to the first part of this paper being in print, I discovered that the above insect had been previously described by Mr. Jacoby; my name must therefore fall. Mr. Jacoby gives Ecuador and Bogota as localities of the species.

Species unknown to me:—

DIABROTICA INSTABILIS, v. *Harold, Mittheil. d. Münchener Ent. Ver.* 1877, p. 111.

“Vertice medio foveolato, thorace evidentè bifoveolato, elytris subnitidis, sat dense punctatis; corpore subtus cum pedibus, metasterno nigro excepto, testaceo, supra vel omnino testaceo vel vario modo nigro-signato. Long. 5 mill.

“Colombia.

“Var. *a.* Supra omnino testacea, antennarum articulis 6–8 subinfuscatis.

“Var. *b.* Elytris vitta humerali alterisque utrinque duabus ante medium et post medium, transversim positis, nigris.

“Var. *c.* Elytris vitta humerali, puncto ante medium alteroque ante apicem, præterea macula oblonga ad marginem ante apicem, nigris.

“Var. *d.* Elytris vitta marginali, sutura ad basin maculaque ante apicem nigris.

“Var. *e.* Elytris ad suturam, macula humerali et signatura sublaterali, formam fere literæ X exhibente, nigris.

“Prope accedit ad *D. abruptam*, præcipue var. *d.*, et thorace breviori et sat fortiter bifoveolato, foveolis transversim inter se subconfluentibus, diversa.”

DIABROTICA LACORDAIREI, *Kirsch, Berl. ent. Zeitsch.* xxvii. 1883, Heft ii. p. 199.

“Oblonga, convexa, supra glabra, subtus pubescens, albida; capite, antennis, elytris et metasterno nigris, antennarum articulis duobus antepenultimis et basi ultimi albis; elytris sparse punctatis, maculis quatuor (2, 1, 1, intermedia maxima transversa) eburneis; pedibus nigris, femorum basi albida. Long. 9–10, lat. $4\frac{1}{2}$ mill.”

“Patria Bogotá.

DIABROTICA JACOBYI, *Kirsch, l. c.* p. 200.

“Oblonga, nitida, glabra, nigra; antennarum articulis duobus penultimis albidis, femoribus posticis abdomineque testaceis, prothorace, mesosterno, femoribus anterioribus elytrisque prasinis, his apice sulfureis, basi fusco bimaculatis. Long. 6, lat. $2\frac{1}{2}$ mill.”

“Patria Nova Granada (Itinere Popayan-Huila, 1800–2500 M. alt.)”

Owing to the author not having given the relative lengths of the second and third joints of the antennæ, I am unable to place these species in either of the two sections into which I have divided the insects described or enumerated in this paper. *D. Jacobyi* is probably a variety of *D. fusco-maculata*, Jacoby.

Description of *Strongylus Axei* (Cobb.), preceded by Remarks on its Affinities. By T. SPENCER COBBOLD, M.D., F.R.S., F.L.S., Hon. Vice-Pres. Birmingham Nat. Hist. and Microscopical Society.

[Read 21st January, 1886.]

(PLATE XXXII.)

EIGHT years back the late Principal of the Royal Veterinary College, Professor J. B. Simonds, called my attention to a pen-and-ink sketch of a very small parasitic Nematoid. The figure (reproduced below) was accompanied by a MS. note stating that the entozoon was one of several “embryonic worms” found by a student in the mucous membrane of the stomach of a donkey. The